AventaCell BioMedical Corp

UltraGRO™ Cell Culture Supplement

Description

UltraGRO™ cell culture supplement is a non-xenogeneic, animal serum-free, and heparin-requiring media supplement for replacing FBS (fetal bovine serum) to support cell expansion from research through clinical trials to commercial use. UltraGRO™ contains abundant growth factors and cytokines necessary for research or industrial cell growth and proliferation of multiple cell types (e.g. MSCs).

Product	Catalog No.	Spec.	Storage	Shelf Life*
UltraGRO™ (Research grade)	HPCPLCRL05	50mL	Store at –20°C	42 months
	HPCPLCRL10	100mL		
	HPCPLCRL50	500mL		
UltraGRO™ (GMP grade)	HPCPLCGL05	50mL		
	HPCPLCGL10	100mL		
	HPCPLCGL50	500mL		

*Shelf life duration is determined from Date of Manufacture, continuously stored frozen in original bottle.

Intended use

For human ex-vivo tissue and cell culture processing applications.

Important information

Clotting or insoluble particles may form in thawed UltraGRO™ cell culture supplement. Published research has shown that particles will not alter the performance of the product.

Safety information

- Follow the handling instructions outlined in the Material Safety Data Sheets (MSDSs). Wear appropriate protective eyewear, clothing, and gloves.
- UltraGRO™ is a cell culture supplement derived from human platelets collected from healthy donors at FDA or HC licensed blood centers. Each donor has been tested using FDA/HC-licensed tests and found nonreactive for HBsAg, Hepatitis B core antibody (anti-HBc), HIV antibody (anti-HIV-1/2), Hepatitis C antibody (anti-HCV), HTLV-1/2 antibody (anti-HTLV-1/2), Trypanosoma cruzi antibody (anti-T. cruzi), HIV-1, HCV, HBV, WNV nucleic acid testing and Syphilis microhemagglutination test. Handle in accordance with established bio-safety practices.

MSC culture conditions

Media:

Complete medium is comprised of a basal media (e.g. α-MEM or other supportive media), heparin and UltraGRO™

Culture type: Adhesion

Culture vessels: Cell culture plates, T-flasks, G-Rex flasks or cell culture bags

Temperature range: 36°C to 38°C

Incubator atmosphere: Humidified atmosphere of 4–6% CO_2. Ensure that proper gas exchange is achieved in culture vessels.

Precipitation in Cell Culture

- Clotting or insoluble particles may form in thawed UltraGRO™, it is recommended to centrifuge at 3,400 ×g for 3 ~ 5 minutes or to filter the liquid concentrate with a sterile 40µm Cell Strainer to remove insoluble particles.
- Filtering the completed medium (e.g. 5%), after UltraGRO™ is diluted in the basal medium, will not affect UltraGRO™ supplemented cell culture performance. However, 0.22 µm filtering is **NOT** recommended for the 100% UltraGRO™ concentrate, as this may reduce 5% UltraGRO™ cell culture performance.
- Repeated freeze-thaw cycles should be avoided as they will cause an increase in insoluble precipitates and resulting potential decrease in UltraGRO™ performance.

Protocol

- UltraGRO™ shows optimal growth of MSC at 5% (v/v) in typical cell culture media, i.e. α-MEM, which contains 2mM L-Glutamine as final concentrate.
- We recommend seeding MSCs at approximately 3×10^3 ~ 6×10^3 per cm^2.
- UltraGRO™ requires heparin at a final concentration of 2IU/ml to be added in the

culture media when supplemented with 5% UltraGRO™. Failure to add heparin will result in coagulation during cell culture in typical media.

Storage

UltraGRO™ is most stable when stored frozen until needed. The recommended storage temperature is -20°C or -80°C. Thaw frozen UltraGRO™ product in 37 °C water bath before use. Once UltraGRO™ is thawed, it is recommended to fully use for completed medium preparation (e.g. 5%) the same day, or to divide it into single-use aliquots and store unused aliquots at -20°C or -80°C.

Cell Lines

Bone marrow mesenchymal stem cells
Adipose tissue derived mesenchymal stem cells
Umbilical cord derived mesenchymal stem cells
Other mesenchymal stem cells

References

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